TÜRKİYE CLIMATE SMART AND COMPETITIVE AGRICULTURAL GROWTH PROJECT (TUCSAP)

Terms of Reference
SOFTWARE SPECIALIST
Ref no: CS.EU&FA.CS4-08C

1. Background

The Ministry of Agriculture and Forestry (MoAF) has received financing from the World Bank in the form of a loan (hereinafter called "loan") toward the cost of the "Türkiye Climate Smart and Competitive Agricultural Growth Project (TUCSAP)" (the Project). MoAF intends to apply a portion of the proceeds of this loan to eligible payments under the contract for which this Terms of Reference is issued.

The Project will support the agri-food sector in transitioning toward a more sustainable, competitive and climate-smart growth orientation by enhancing capacity in a range of areas, including information generation and dissemination to contribute to sustainable soil and land-use planning/management; agricultural data collection and analysis; and animal health aspects, and by supporting innovation and the use of smart farming/climate-smart technologies and practices by farmers and agricultural enterprises. The project investments are expected to contribute to increased agricultural productivity/competitiveness, resilience, and sustainability. The Project will be implemented in targeted regions in Türkiye.

The implementation of the Project will follow World Bank's (WB) fiduciary, environmental, and social policies and national requirements.

The Project will be implemented through four components, namely as (1) Institutional Capacity Strengthening for Climate Smart Agri-food Policy, Planning, and Investments, (2) Enhancing Animal Health Capacity for Effective Disease Surveillance, Diagnostics and Control, (3) Investments for Enhanced Productivity, Resource-Efficiency, and Climate Resilience, (4) Project Management, Monitoring, and Evaluation.

Component 1 will support the strengthening capacity for sectorial planning, with a specific focus on narrowing information gaps in relation to Türkiye's soils and land natural capital, to contribute to their sustainable planning and management. Component activities will also enhance MoAF's digital blueprint for data collection and information management to support smart policy monitoring and programming.

Component 2 will support two main activities: strengthening the capacity of Veterinary Control Institutes (VCIs) (Subcomponent 2.1) and support to establish the National Veterinary Medicinal Control Center (Subcomponent 2.2). The component will follow best practice (i.e., World Organization for Animal Health, EU) to support feasibility assessments, laboratory facilities, laboratory equipment, technical training for staff (as per the National Reference Laboratory defined plans for all laboratories), and information systems. Designs to maximize green and resilient (e.g., energy saving, seismic resistance) elements in infrastructure and equipment will be considered in the feasibility assessment.

Component 3 will support the dissemination, validation and adoption of Climate Smart Agriculture (CSA) technologies and practices, as well as Research, Development and Innovation (RD&I) efforts. The adoption of CSA technologies and practices will contribute to improved agriculture performance via productivity gains, cost reductions, more efficient

resource-use (fertilizers, pesticides, energy, and water) and improved climate resilience, while also generating important climate mitigation benefits and reducing pollution. Investments under this component are also expected to generate key agricultural data to support decision making by farmers and enterprises and to inform policy design. The component will encourage the uptake and effective use of innovative/disruptive CSA technologies/practices by closing knowledge and skill gaps and by providing financial support and technical assistance to producers and enterprises. Subcomponent 3.1 will pilot a geothermal greenhouse business model to build infrastructure and mobilize private (including small/middle size) investors rapidly, while maintaining the advantages of a cluster. Subcomponent 3.2 will primarily focus on awareness creation, dissemination and providing co-funding opportunities for digitally enabled technologies and solutions (smart and precision agriculture). Subcomponent 3.3 will pilot and promote innovative approaches for manure management to overcome existing knowledge, physical and logistical barriers. Subcomponent 3.4 will support the implementation of the RD&I agenda around CSA in alignment with priorities identified in the recently launched Green Deal Plan including reducing the use of pesticides, enhancing nutrient management (through biofertilizers), and enhancing energy and water efficiencies and support climate-related assessments.

Component 4 will support all project management functions. It will include support for a Project Coordination Unit (PCU) and Project Implementation Units (PIUs) for: (i) strengthening capacity for day-to-day project management of technical, fiduciary, Monitoring and Evaluation (M&E), Environmental and Social (E&S) issues including occupational health and safety (OHS); (ii) grievance redress, citizen engagement, and implementation of the communications; and (iii) M&E of project activities, including impact assessments, beneficiary satisfaction surveys, and development of an integrated system for project management and monitoring of project outputs and outcomes.

MoAF established and maintain a Project Coordination Unit (PCU) hosted at ABDGM (General Directorate of EU and Foreign Relations) to manage and coordinate the entire Project with qualified and experienced personnel and resources to support the management of M&E activities of the Project, including one Lead M&E Specialist and two M&E Specialists.

2. Scope and Objective

The main objective is to employ a Software Specialist to assist MoAF/ TUCSAP PCU in the project M&E activities as indicated below.

The Software Specialist will work under the supervision of the Technical Team Leader and Lead M&E Specialist at the PCU, in coordination with the assigned expert from BTGM (DG of Information Technologies)

The Software Specialist will be responsible for planning and providing software analysis, design, maintenance and training services in support of the activities of the Project. She/he will carry out activities related to TUCSAP Online Monitoring and Evaluation System, enable necessary coordination and provide technical assistance to the PIUs and PCU.

In his/her activities, Software Specialist will be guided by the main Project documents (accessible at https://tucsap.tarimorman.gov.tr/Sayfa/Detay/1517) and other relevant documents to be provided by Lead M&E Specialist on TUCSAP M&E Framework and BTGM Experts on technical issues.

The Software Specialist will work in close collaboration with the PCU M&E team in the Project Coordination Unit (PCU) with the assigned expert from BTGM, and other relevant specialists in the PCU and PIUs when required.

The Software Specialist shall participate in the preparation and update of all relevant project reports to be submitted to PCU and the Bank, when requested, in line with his/her expertise and status in the Project. The Software Specialist will fill in detailed time sheets on his/her activities and comply with his/her contract's requirements in terms of payment/time justification in the context of high accountability under TUCSAP.

The Software Specialist will report to the Technical Team Leader and Lead Monitoring and Evaluation Specialist.

3. Qualifications and Skills

a. Technical Qualifications

- Bachelor's degree in the departments of Software Engineering, Computer Engineering or Electrical and Electronics Engineering.

- Master's degree in Software Engineering, Computer Engineering or Electrical and Electronics Engineering is an asset.

- Having at least 4 years of work experience in software development in the public or private sector

- Preferably having developed software in .Net, .Net Core,

- Having developed applications using MS SQL or PostgreSQL/PostGIS database systems

- Having used web service technologies such as WCF, SOAP, RESTFUL

- Preferably to have developed applications with React library

- Having used at least one of the source code management tools such as Git or TFS

- Having knowledge about project management process.

b. Other Qualifications

- Fluency in written and oral Turkish and English is a requirement,

- Experience within interdisciplinary teams in project management and working experience with World Bank financed project experience would be an advantage,

- Proficiency in key computer applications, e.g., Word, Excel, PowerPoint, have a strong client orientation,

- Familiarity with Government of Türkiye's relevant legal, administrative and bureaucratic procedures would be an advantage,

- Excellent interpersonal skills demonstrated ability to communicate effectively and strong writing/reporting skills.

- Excellent interpersonal and communications skills,

- Ability to travel without restriction,

- Teamwork skills,

- Analytical thinking and problem-solving skills,

- Completed military service for male candidates.

4. Duties and Responsibilities and Scope of Work

A. Software system/application analysis, design, revision or maintenance:

- To be the part of the project team who develops responsive DIS (Dış Kaynaklı Proje İzleme Sistemi) and other relevant system applications in TUCSAP.
- To analyze and develop of the current software system for M&E system
- To provide support, maintenance and, if needed, revision and improvement services of the software system for M&E system that is going to be developed.
- To understand and analyze the expectations of the stakeholders within the Ministry from the software applications perspective, to carry out the design and coding of the applications, and to supervise the usability of the applications once they are made accessible to the stakeholders.
- To conduct testing processes related to applications.
- To trouble shoot the possible errors that will occur in the system and to fix these errors.
- To keep all the system components, services and libraries of the software operating with up-to-date technologies.
- To inform teammates and managers during the software development process.

B. Prepare necessary documentation and software-based M&E reports

- To prepare reports and provide necessary documentation about the work done in relation to the project implementation.
- To make the necessary analyses to meet the software-based report demands, and develop the resulting user interfaces, report formats and related methods.
- To prepare the analysis and design documents of the applications to be developed.
- To prepare and generate relevant data and reports as well as simple charts/figures related to the M&E tasks.

C. Staff training, capacity building and other tasks as needed:

- To undertake the training needs of the personnel of PIUs for the implementation of activities related to his/her task under the Project. To give necessary training for the effective use of software applications and to take part in the preparation of guidelines/manuals.
- To perform other duties emerging under this Terms of Reference.

OUTPUTS:

- Establishing a user-friendly TUCSAP M&E mechanism within the DIS system in line with the needs
- Making the TUCSAP M&E System an actively used system within the Ministry for the management of other World Bank supported projects.
- Entries and follow-up of all business and transactions of stakeholders.
- Integrated process management and indicator-driven monitoring and evaluation system.
- Deactivating the inefficient business process.
- Creation of relevant project documents, data, and charts in accordance with the standards to support the formation of an understanding in line with Project Management standards.
- Contributing to the software/IT related capacity building of the project office through training and project manuals provision.

5. **Duration and Location of Employment**

The position will be full-time and based in Ankara as a member of the Project Coordination Unit hosted at ABDGM (General Directorate of EU and Foreign Relations) to be working mostly in General Directorate of Information Technologies under Republic of Türkiye Ministry of Agriculture and Forestry. The planned duration of service of the Software Specialist is foreseen to start in March 2024 and will end in the first quarter of 2028 corresponding to the closure of the Project or on the project's extended closure date. The Software Specialist will be required on a full-time basis in the first year. In the following years the services will be required on a part-time basis.

The contract will have one-year duration with two-months probation period. The contract period may be extended annually till the end of the implementation depending on the need of the MoAF, satisfactory performance of the consultant and the availability of the Project funds through mutual agreement.